

Pacific States Marine Fisheries Commission

**Pacific
Fishery
Information
Network**



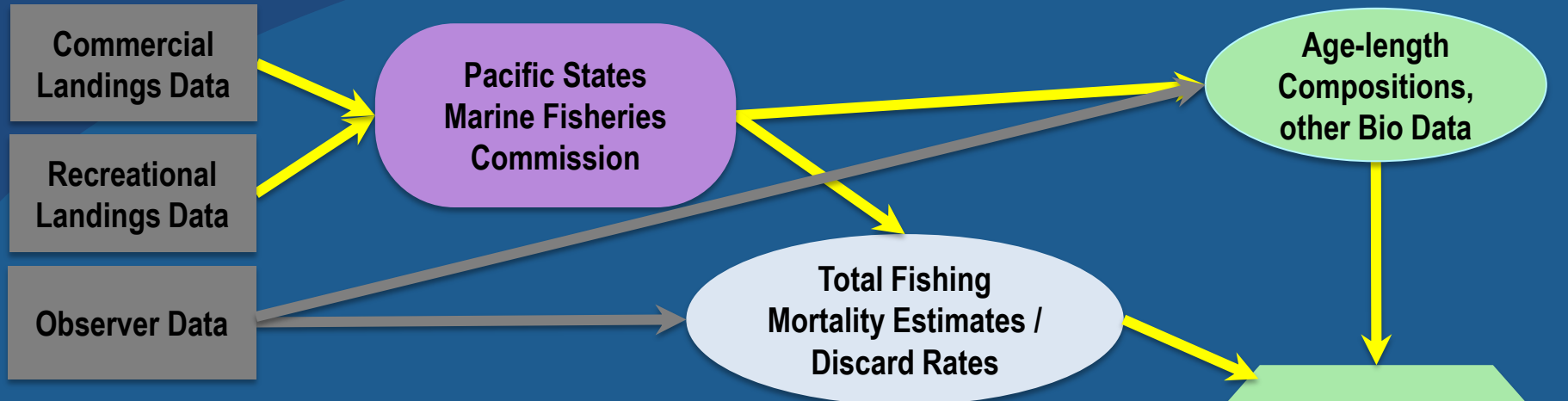
**Recreational
Fishery
Information
Network**

An overview of Commission roles relating to
groundfish data

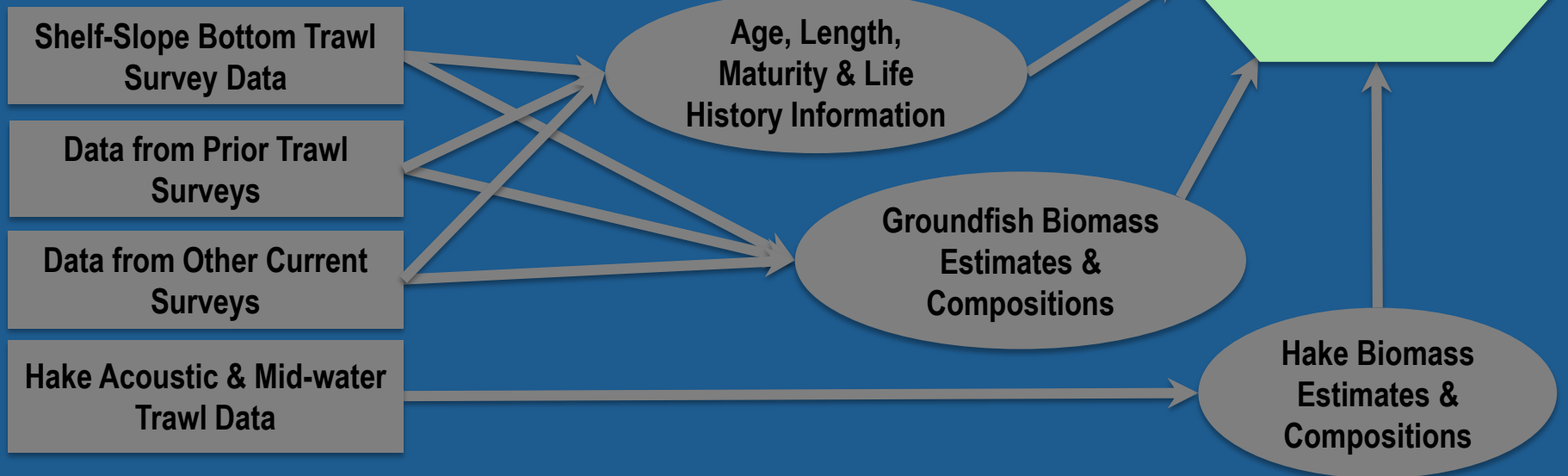
Presented by James Hastie, NWFSC

Fishery Data Flows

Fishery Dependent Data



Fishery Independent Data



Pacific States

Marine Fisheries Commission

Involvement in both Commercial and Recreational data processes

- Support for data collection
- Data warehousing and standardization
- Data distribution and access

PSMFC plays myriad roles, but I will focus on this limited suite of activities

Goals



- 1) Acquire and consolidate/standardize data generated by the Pacific States commercial fisheries
- 2) Provide quality assurance
- 3) Provide quantitative analyses and interpretations of these data
- 4) Disseminate the processed information to fishery analysts, scientists, managers, and other administrative agencies
- 5) Continually develop communication with partners and user community

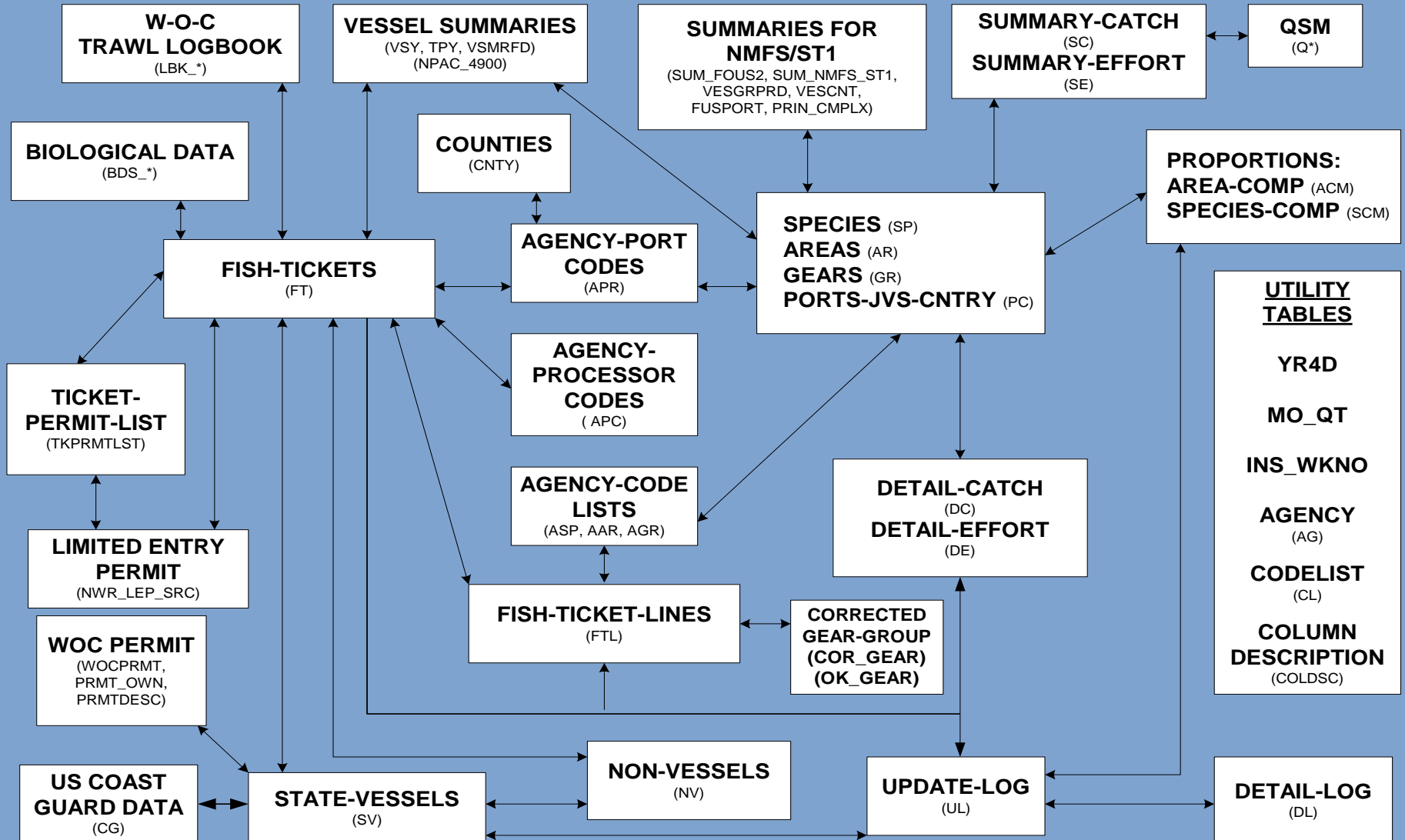
PacFIN Support for Data Collection

- Port sampling support
 - CA – \$400,000 (8 x \$50K)
 - OR – \$250,000
 - WA – \$200,000
- Printing trawl logbooks
- Development/testing of new data-related technology
 - Electronic logbook/fish tickets
 - Electronic monitoring

Data Warehousing and Standardization

- State agencies submit feeds of fish ticket and logbook data and biological data
 - Each state uses different codes and has different fish ticket forms
 - 1981 - present
- Translate disparate state codes into a consistent set of coast-wide codes:
 - Species, gears, ports, areas, etc.
- Application of species compositions
- State agencies submit biological data (pre-1981⁶+))

PacFIN Oracle Database Structure



PacFIN Data Distribution and Access

- Online pre-specified reports
 - Good for quick access,
 - Not very multi-dimensional or focusable
 - Care must be taken to select correct report

Canned Reports

T	SPECIES_OR_GROUP	CDFG	ODFW	WDFW	WOC_CP	WOC_FLOAT	WOC_AT_SEA	ALL_SOURCES	SPID
1	PACIFIC OCEAN PERCH	.1	21.5	17.3	1.3	1	2.3	41.2	POP
	UNSP. POP GROUP	0		0				0	UPOP
	AURORA ROCKFISH	25.5	9.5	1.6				36.5	ARRA
	NOM. AURORA ROCKFISH	.4						.4	ARR1
	BOCACCIO	11.6	.6	1.6	0	0	.1	13.8	BCAC
	NOM. BOCACCIO	.8						.8	BCC1
	BLACKGILL ROCKFISH	169.3	4.6	1	0		0	174.9	BLGL
	NOM. BLACKGILL ROCKFI	17.6						17.6	BGL1
	BLACK ROCKFISH	8.7	90.3					99	BLCK
	NOM. BLACK ROCKFISH	15.5	6.2	.1				21.8	BLK1
	BLUE ROCKFISH	3	5.9					8.8	BLUR
	NOM. BLUE ROCKFISH	1.2	1					2.2	BLU1
	BANK ROCKFISH	16.7	.2			0	0	16.9	BANK
	NOM. BANK ROCKFISH	1.5						1.5	BNK1
	BROWN ROCKFISH	21.7						21.7	BRWN
	NOM. BROWN ROCKFISH	4.4	0					4.4	BRW1
	NOM. BRONZESPOTTED RO	0						0	BRZ1
	BLACKSPOTTED ROCKFISH	9		.3				9.3	BSPR
	BLACK-AND-YELLOW ROCK	7.4						7.4	BYEL
	NOM. BLACK-AND-YELLOW	3.9	0					3.9	BYL1
	CHINA ROCKFISH	1						1	CHNA
	NOM. CHINA ROCKFISH	.9	8.8					9.6	CHN1
	CHILIPEPPER	233.9	.1		0		0	234	CLPR
	NOM. CHILIPEPPER	2.3						2.3	CLP1
	CANARY ROCKFISH	.4	4.7	9.8	.1	0	.1	15.1	CNRY
	NOM. CANARY ROCKFISH	.2	.2	.3				.6	CNR1

PacFIN Data Distribution and Access

- Online pre-specified reports
 - Good for quick access,
 - But not multi-dimensional or focusable
 - Care must be taken to select correct report
- Online, password-protected query engine
 - A new, improved system is in the works

Customizable Query Engine

PacFIN Explorer: Multi-dimensional query tool

[New Query](#) [Run Query](#) [Export as HTML](#) [Export as Excel](#) [Export as CSV](#) [Help](#) [Video #1](#) [Video #2](#)

Design View

Dimensions

Time: ☒ Year ☐ Month
Port: ☒ Hide ☐ Agency ☐ PCGROUP ☐ PCID
Species: ☐ Hide ☐ MGRP ☐ Complex ☒ SPID
Area: ☐ Hide ☒ Council ☐ INPFC ☐ ARGROUP ☐ ARID
Gear: ☐ Hide ☒ GRGROUP ☐ GRID
Codes: ☐ PARGRP ☐ Grade ☐ Cond ☐ Disp ☐ Removal Type
Other: ☐ VesselID ☐ VesselName ☐ ProcessorID ☐ ProcessorName
VDRFD: ☐ Fleet ☐ PermitList ☐ Dahl Sector ?

Measures

☒ Pounds
☐ Mtons
☒ Dollars
☒ \$/Pound
☐ %Priced
☐ #Vessels
☐ #Buyers

Options

Data Source: ☒ VDRFD ☐ Fish Tickets
☐ Show Code Names in Query Results
☒ Combine Nominal & Actual Species
☐ Show Advanced Features

Filters

Year Range: 2011 ▼ to 2011 ▼
Agency: ☒ Select All ☒ C (CDFG) ☒ O (ODFW) ☒ W (WDFW)
MGRP: ☒ Select All ☒ CPEL ☒ CRAB ☒ GRND ☒ HMSP ☒ OTHR ☒ SAMN ☒ SHLL ☒ SRMP
Council: ☐ Select All ☐ N (NPFMC) ☒ P (PFMC) ☐ * (Neither)
GRGROUP: ☒ Select All ☒ DRG ☒ HKL ☒ MSC ☒ NET ☒ POT ☒ TLS ☒ TWL ☒ TWS
PARGRP: ☒ Select All ☒ C (Commercial) ☒ I (Treaty Indian)
Removal Type: ☒ Select All ☒ C (Comm.) ☒ D (Dir.) ☒ E (EFP) ☒ O (Other) ☒ P (Pers.) ☒ R (Research) ☒ U (Unk.)
Fleet: ☒ Select All ☒ LE (Limited Entry) ☒ OA (Open Access) ☒ R (Research) ☒ TI (Treaty Indian) ☒ XX (Other)
Dahl Sector: ☒ Select All ☒ 03 ☒ 04 ☒ 05 ☒ 06 ☒ 07 ☒ 08 ☒ 09 ☒ 10 ☒ 11 ☒ 12 ☒ 13 ☒ 14 ☒ 15 ☒ 17 ☒ 18 ☒ 19 ☒ 20
SPID: SABL ▼ Complex: Select All ▼
IFQ: ☐

Sample Output and Generated SQL Code

```
SQL View
SELECT vf.year,sp.mgrp,sp.spid,ar.council,gr.grgroup,
       ROUND(SUM(rwt_lbs)) AS pounds,
       ROUND(SUM(rev)) AS dollars,
       ROUND(SUM(rev)/SUM(rwt_lbs),2) AS ppp
FROM   vdrfd vf
       INNER JOIN ar ON ar.arid = vf.arid
       INNER JOIN gr ON gr.grid = vf.grid
       INNER JOIN sp_nominal_actual sna ON sna.spid_nominal = vf.spid
       INNER JOIN sp ON sp.spid = sna.spid_actual
WHERE  vf.year = 2011
AND    vf.agid IN ('C','O','W')
AND    ar.council IN ('P')
AND    vf.pargrp IN ('C','I')
AND    sp.spid = 'SABL'
GROUP BY vf.year,sp.mgrp,sp.spid,ar.council,gr.grgroup
ORDER BY vf.year,sp.mgrp,sp.spid,ar.council,gr.grgroup
```

Query Results

Year	MGRP	SPID	Council	GRGROUP	Pounds	Dollars	\$/Pound
2011	GRND	SABL	P	HKL	7,115,861	24,810,842	3.49
2011	GRND	SABL	P	NET	1,920	3,835	2.00
2011	GRND	SABL	P	POT	3,193,116	10,320,766	3.23
2011	GRND	SABL	P	TLS	8,866	26,550	2.99
2011	GRND	SABL	P	TWL	3,799,484	9,564,564	2.52
2011	GRND	SABL	P	TWS	4,890	12,199	2.49

PacFIN Data Distribution and Access

- Online pre-specified reports
 - Good for quick access,
 - But not multi-dimensional or focusable
- Online, password-protected query engine
 - A new, improved system is in the works
- Data-request process
- Restricted access to extract data directly from the PacFIN data system
- Controlling access to **protect confidentiality**

IFQ Catch Data Flow Diagram



Trawl vessel with
observer on board



Observer enters report of
discards



**NWR IFQ Database
NWFSC – SDM**

Pulls data nightly from PSMFC
Web Service, and on Sunday
nights from Observer Database

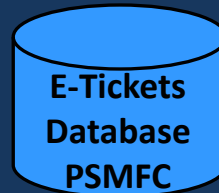


Courtesy www.pacseafood.com

Lands to a first receiver with
first receiver site license



First receiver enters report of
landings

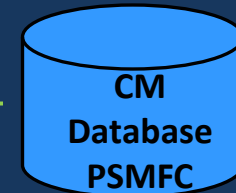


Courtesy PSMFC

Offloads landings at site with a
catch monitor present



Catch monitor enters report
of landings



**PSMFC
Web
Service**

Catch data (landings
and discards) from all
three sources uploads
to vessel account

Vessel Account

Vessel owner logs into their vessel
account to see the catch being debited

IFQ Species	FR	CM	Debit Source	Landing Amount Debited	Observer Discard	Total Catch Debited
Sablefish N	250	250	FT=CM	250	15	265
Cowcod S	2	1	FT>CM	2	0	2
Other flatfish	1,000	1,012	FT<CM	1,012	300	1,312
Pacific whiting	0	0		0	75	75

Support for Data Collection



- Rec sampling support
 - Mix of \$ and staff provided to the 3 states
 - RecFIN develops effort adjustments for some CA fishing modes
 - Effort adjustments are augmented by a monthly telephone survey of licensed anglers.

Data Warehousing and Standardization

- State agencies submit feeds of catch, effort, and biological data
 - Variety of state formats
- Translate disparate state codes into a consistent coast-wide codes:
 - Species, fishing modes, locations, etc.
- Apply depth-based mortality rates to angler-reported released catch
- Data currently in SAS data sets

RecFIN Data Distribution and Access

- Online query engine
 - Catch, effort, bio-sample data
- Data-request process
 - Trip-level data needed for CPUE development

RecFIN Online query engine

- Subregion
- MARINE AREA
- FISHING MODE
- **NAME - Choose one.**
 - ☐ TAXONOMIC SUPER GROUP
 - ☒ TAXONOMIC GROUP
 - ☐ USER DEFINED SPECIES GROUP

trout, rainbow
smelt family
smelt, surf
smelt, night
smelt, longfin
lizardfish, California
cod family
cod, Pacific
tomcod, Pacific
pollock, walleye

NOTE: Multiple Selection Possible - Typically, you hold down the 'control' key to select and deselect multiple members of this list. You can also select blocks of members by holding down the 'shift' key on a second click, which selects every member between it and the previous clicked member. Keep the 'control' key down while using the 'shift' key to select additional blocks while preserving already selected members.

- ☐ COMMON NAME CONTAINS Blank selects all species
 - ☐ SORT ALPHABETICALLY

TABLE LAYOUT - What type of coverage is summarized in the table rows and columns and which estimate values are calculated.

	COLUMN Labels <input type="text" value="fishing mode"/>
ROW Labels <input type="text" value="year"/>	VALUES <input type="text" value="weight of catch type A+B1"/>

/*

fish per 1000 angler days */ Catch types: A=Examined [B=Reported by angler: 1=Dead 2=Alive]

TIME SPAN - How many years of data to include in the table. Set rows or columns to year for a trend table, otherwise the years are combined in the calculated estimates.

- **STARTING: YEAR** **WAVE**
- **ENDING: YEAR** **WAVE**

Sample Output

ESTIMATED WEIGHT OF HARVESTED DEAD CATCH (A+B1) IN METRIC TONS OF FISH CAUGHT BY MARINE RECREATIONAL ANGLERS BY YEAR AND FISHING MODE FOR ALL MODES OF FISHING IN ALL MARINE AREAS IN CALIFORNIA JANUARY 1994 - DECEMBER 1999 FOR TAXONOMIC GROUP BOCACCIO

The SAS System

17:01 Tuesday, September 1, 1999

FISHING MODES

	MAN MADE	PARTY/CHA- RTER BOAT	PRIVATE/R- ENTAL BOAT	MODES TOTAL
	EST	EST	EST	EST
YEARS				
TOTAL	4	478	196	678
1994	3	147	69	220
1995	0	22	11	33
1996	0	51	42	93
1997	-	137	19	157
1998	-	33	18	51
1999	0	87	36	124



Strengths

- PSMFC support of state sampling
- Standardization of and access provided to state data crucial for coast-wide analysis
- Quick access to commercial and recreational biological data
- Flexible suite of methods for accessing commercial data
 - Protection of confidentiality
- PacFIN has evolved tremendously over the last 15-20 years



Challenges

- Even with standardization, the data remain extremely complex
- State-level-to-coast-wide data mapping can make it difficult to recover some original information
- Considerable challenge to document all fishery landings
 - Commercial Shoreside + At-sea
 - Commercial + Recreational
- RecFIN access lacks PacFIN's user-friendliness
 - Current reliance on SAS
- Bio-data include only age-reads, not unread structures
- PacFIN funding: 1995 = \$2.3 mil; 2013 base = \$2.2 mil
 - No longer supporting age-reading in OR and WA



Looking Forward

- Conversion of RecFIN database to SQL and improvements to PacFIN database
- Updating of user interfaces of both PacFIN and RecFIN
 - Data and graphics
- The precarious state of overall resources to support biological sampling is troubling
 - Assessments NEED Biological data!